Surge FAQs

What are surges?

Electrical surges occur when the voltage in your electrical system increases and returns to normal in millionths of a second, otherwise known as a voltage spike.

What causes surges?

Lightning can produce a surge of electricity which may enter sensitive electronic components through power cords, telephone lines and cable, satellite and antenna lines. In fact, lightning strikes within a mile of your home may damage your electronic or electrical equipment.

Motors turning on and off such as air conditioners, furnace motors and refrigerators, create an electrical surge.

Electric surges can be caused when two power lines come in contact with each other. Several things can cause power lines to touch, some include:

- When cars crash into power poles.
- When windstorms blow tree limbs across power lines.
- When ice storms cause tree limbs or lines to touch due to the added weight.
- When animals come in contact with two power lines at the same time.

Who needs surge protection?

Anyone who has electrical or electronic equipment should consider using surge protection devices.

Do different appliances require different surge protection devices?

Large motor driven appliances may be protected by a service entrance protection device that is normally connected directly to the electrical wiring. These products are designed specifically to prevent catastrophic surges from entering your home by reducing the over voltage to a manageable level which is acceptable for safe requires a service entrance device

- Refrigerators
- Freezers
- Dish Washers
- Washers and Dryers
- Garbage Disposals
- Air Conditioners
- Furnaces

Appliances that have only a power plug require a surge protection device (SPD) that simply plugs into the wall. The following equipment requires this type of SPD:

- Refrigerators with electronic controls
- Microwave Ovens
- Garage Door Openers
- Stereos, CD Players
- Alarm Clock Radios

Appliances that use two services, such as a television set with a cable wire and an electrical cord, require a combination SPD that allows both a cable and power connection. The following equipment requires this type of SPD:

- Computers
- Television Sets
- Digital Telephones
- Answering Machines
- Satellite Dish Components
- VCR's

What's the danger, anyway?

Unfortunately, the sophisticated circuitry found in today's high tech electronics like VCR's, TV's and computers can be damaged by power surges. It can happen all at once or slowly over time. In addition, if that is not important…

According to the Consumer Product Safety Commission, 55,000 preventable electrical fires claim more that 750 human lives, 6,700 injuries and $1.2 billion in personal property each year. Wiring and grounding continue to be reported as the most common consumer problem resulting from lack of maintenance.

Electricity is a clean, efficient form of energy and is an important part of everyday life for most people. The flick of a switch can heat, cool, light, clean, cook and entertain. Electricity is such a silent and faithful servant that consumers can easily take it for granted. Electricity is a powerful servant, but it can also be dangerous or even lethal if it isn't treated with respect.

Doesn't the power strip I bought protect my electronics?

Unless your service entrance has been tested to determine if a qualified ground exists, no surge protector will work. Only a qualified trained individual, such as a licensed electrician, with the proper equipment can perform this test. Surge suppression devices are designed to safely divert over voltage to the main power ground through the home's electrical ground system. Although the National Electrical Code sets recommendations for grounding most homes are never tested for compliance, including new construction and, in fact, most local codes only require a visual inspection. And, if that isn't enough, homes are not checked after they are built. Just think back, when was the last time your own home was tested? Getting back to the original question, probably not. Some common "power strips" offer a degree of surge protection, but it's often not enough. It takes a high-quality surge suppressor to truly protect your sensitive electrical equipment.

Do I need to worry about anything else?

Certain items such as security alarms, well pumps and sprinkler systems, to name a few, require special attention. Security alarms are not protected with normal SPD's and it is preferable to have the security alarm provider install the proper SPD. Well pumps and sprinkler systems are most commonly affected not through power lines, but through direct strikes, making these products difficult to protect. It is advisable to install a SPD at the well pump to prevent over voltage from re-entering the home.

The facts about power surges…

- Power surges are a common, everyday occurrence.

- There are many causes, including disturbances from household appliances.
- Power surges can irreparably damages sensitive electronics, such as VCR's, TV's, and computers as well as household appliances.
- Surge damage can happen all at once or slowly, over time.
- Most common "outlet strips" do not offer adequate protection.
- A reliable surge protection system consists of…
  - Testing/repair of the ground system
  - Meter-based/service entrance suppressor
  - Series of heavy-duty suppression devices